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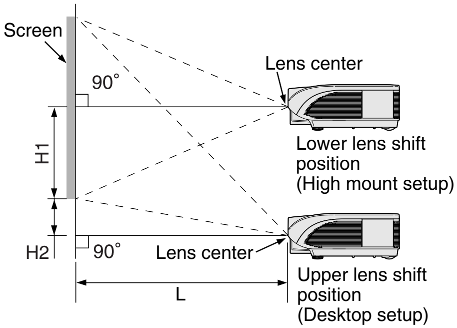
AN-PH10EX

Fixed wide lens for projector
Festes Weitwinkelobjektiv für Projektor
Objectif grand angle fixe pour projecteur
Objetivo angular fijo para proyector
投影机固定广角镜头
プロジェクター用短焦点固定レンズ

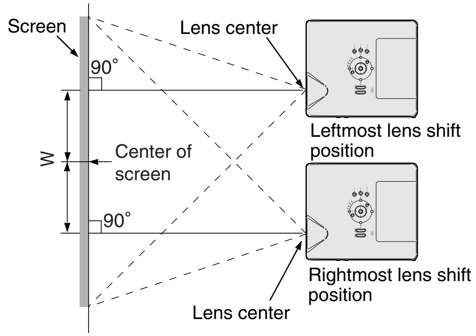
OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE MANEJO
使用说明书
取扱説明書

Picture size and projection distance chart

Side View



Top View



NORMAL Mode (4:3)

Picture (Screen) size			Projection distance	Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image
Diag. [χ]	Width	Height	[L]	Lower [H1]	Upper [H2]	[W]
150" (381 cm)	305 cm (120")	229 cm (90")	2.4 m (8' 0")	–114.3 cm (–45")	–73.2 cm (–28 51/64")	±33.5 cm (13 13/64")
100" (254 cm)	203 cm (80")	152 cm (60")	1.6 m (5' 4")	–76.2 cm (–30")	–48.8 cm (–19 13/64")	±22.4 cm (8 51/64")
84" (213 cm)	171 cm (67")	128 cm (50")	1.4 m (4' 6")	–64.0 cm (–25 13/64")	–41.0 cm (–16 1/8")	±18.8 cm (7 25/64")
80" (203 cm)	163 cm (64")	122 cm (48")	1.3 m (4' 3")	–61.0 cm (–24")	–39.0 cm (–15 23/64")	±17.9 cm (7 3/64")

The formula for picture size and projection distance
χ: Picture size (diag.) (in)
[m/cm]
L (m) = 0.01626χ
H1 (cm) = –0.762χ
H2 (cm) = –0.48768χ
W (cm) = ±0.22352χ
[Feet/inches]
L (ft) = 0.01626χ / 0.3048
H1 (in) = –0.762χ / 2.54
H2 (in) = –0.48768χ / 2.54
W (in) = ±0.22352χ / 2.54

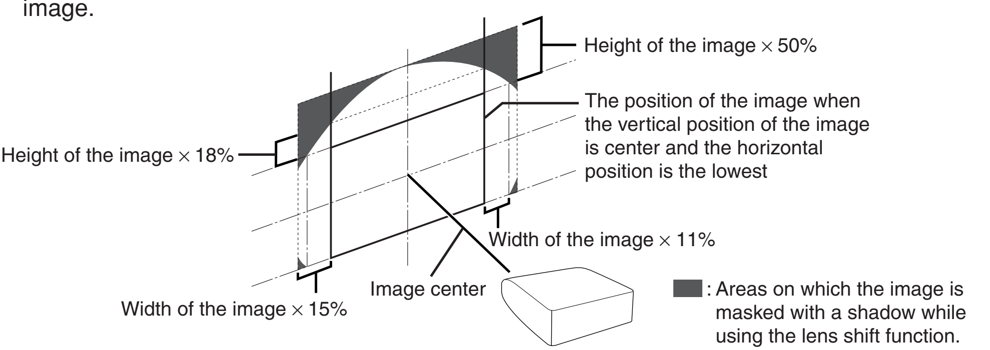
STRETCH Mode (16:9)

Picture (Screen) size			Projection distance	Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image
Diag. [χ]	Width	Height	[L]	Lower [H1]	Upper [H2]	[W]
133" (338 cm)	294 cm (116")	166 cm (65")	2.4 m (7' 9")	–82.8 cm (–32 39/64")	–43.1 cm (–16 61/64")	±32.4 cm (12 3/4")
106" (269 cm)	235 cm (92")	132 cm (52")	1.9 m (6' 2")	–66.0 cm (–25 63/64")	–34.3 cm (–13 33/64")	±25.8 cm (10 5/32")
100" (254 cm)	221 cm (87")	125 cm (49")	1.8 m (5' 10")	–62.3 cm (–24 33/64")	–32.4 cm (–12 3/4")	±24.4 cm (9 19/32")
92" (234 cm)	204 cm (80")	115 cm (45")	1.6 m (5' 4")	–57.3 cm (–22 35/64")	–29.8 cm (–11 47/64")	±22.4 cm (8 53/64")
84" (213 cm)	186 cm (73")	105 cm (41")	1.5 m (4' 11")	–52.3 cm (–20 19/32")	–27.2 cm (–10 45/64")	±20.5 cm (8 3/64")
72" (183 cm)	159 cm (63")	90 cm (35")	1.3 m (4' 2")	–44.8 cm (–17 21/32")	–23.3 cm (–9 11/64")	±17.5 cm (6 29/32")

The formula for picture size and projection distance
χ: Picture size (diag.) (in)
[m/cm]
L (m) = 0.01771χ
H1 (cm) = –0.62263χ
H2 (cm) = –0.32377χ
W (cm) = ±0.24352χ
[Feet/inches]
L (ft) = 0.01771χ / 0.3048
H1 (in) = –0.62263χ / 2.54
H2 (in) = –0.32377χ / 2.54
W (in) = ±0.24352χ / 2.54

Note

- There may be an error of ±3% in the above values.
- Values with a minus (–) sign indicate the distance of the lens center below the bottom of the image.



Adjust the picture size and focus

Refer to “Image Projection” in the projector operation manual for information on adjusting the focus and picture size.

Handling Precautions

- **Do not disassemble this lens.**
  Please refer to your authorized dealer for any maintenance and inspections requiring an open cabinet.
- **Touching any other internal part could cause personal injury or machine malfunction.**
- **Do not touch any glass or protruding part of the lens. This may cause personal injury and reduced performance of the projector.**
- **When maintaining the projector the following points should be noted.**
  - When cleaning the lens be sure to use a commercial air blower or lens cleaning paper (used in cleaning glasses and cameras).
  - The surface of the lens is very delicate. Do not allow hard objects to bump or rub against it.

Caution

- **Be sure not to attach this lens to the projector when storing or carrying the projector. This may cause damage to them.**

Supplied Accessories

- Lens cover (inside rubber ring) – 1
- Lens cap (front) – 1
- Installation manual
- Lens securing screws – 3
- Lens cap (rear) – 1
- Operation manual (this manual)

Specifications

Product type	Fixed wide lens for projector
Model	AN-PH10EX
Type of lens	Fixed lens
Picture size (diagonal)	80" to 150" (4:3)
Focal length	11.6 mm (15/32")
F no.	2.5
Throw ratio	1:0.8
Weight	Approx. 2,700 g (5.95 lbs.)
Dimensions of lens	ø104 × 322.8 mm (12 23/32") (main body only)
Depth of projector with the lens attached	558.9 mm (22 1/64") – 563.1 mm (22 11/64")

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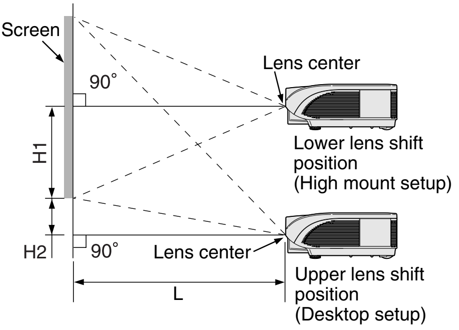
AN-PH20EZ

Wide-zoom lens for projector
Weitwinkelobjektiv für Projektor
Objectif grand angle-zoom pour projecteur
Objetivo granangular-zoom para proyector
XXXX
プロジェクター用短焦点ズームレンズ

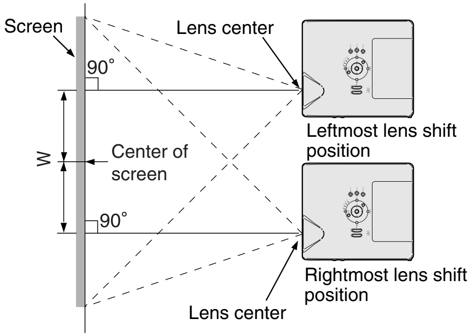
OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE MANEJO
使用说明书
取扱説明書

Picture size and projection distance chart

Side View



Top View



NORMAL Mode (4:3)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
250" (635 cm)	508 cm (200")	381 cm (150")	7.6 m (25' 0")	9.1 m (30' 0")	–190.5 cm (–75")	0 cm (0")	±76.2 cm (30")
200" (508 cm)	406 cm (160")	305 cm (120")	6.1 m (20' 0")	7.3 m (24' 0")	–152.4 cm (–60")	0 cm (0")	±61.0 cm (24")
150" (381 cm)	305 cm (120")	229 cm (90")	4.6 m (15' 0")	5.5 m (18' 0")	–114.3 cm (–45")	0 cm (0")	±45.7 cm (18")
100" (254 cm)	203 cm (80")	152 cm (60")	3.0 m (10' 0")	3.7 m (12' 0")	–76.2 cm (–30")	0 cm (0")	±30.5 cm (12")
84" (213 cm)	171 cm (67")	128 cm (50")	2.6 m (8' 5")	3.1 m (10' 1")	–64.0 cm (–25 13/64")	0 cm (0")	±25.6 cm (10 5/64")
80" (203 cm)	163 cm (64")	122 cm (48")	2.4 m (8' 0")	2.9 m (9' 7")	–61.0 cm (–24")	0 cm (0")	±24.4 cm (9 19/32")
72" (183 cm)	146 cm (58")	110 cm (43")	2.2 m (7' 2")	2.6 m (8' 8")	–54.9 cm (–21 19/32")	0 cm (0")	±21.9 cm (8 41/64")
70" (178 cm)	142 cm (56")	107 cm (42")	2.1 m (7' 0")	2.6 m (8' 5")	–53.3 cm (–21")	0 cm (0")	±21.3 cm (8 13/32")
60" (152 cm)	122 cm (48")	91 cm (36")	1.8 m (6' 0")	2.2 m (7' 2")	–45.7 cm (–18")	0 cm (0")	±18.3 cm (7 13/64")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
$L1\ (m) = 0.03048\chi$
$L2\ (m) = 0.03658\chi$
$H1\ (cm) = -0.762\chi$
$W\ (cm) = \pm 0.3048\chi$
[Feet/inches]
$L1\ (ft) = 0.03048\chi / 0.3048$
$L2\ (ft) = 0.03658\chi / 0.3048$
$H1\ (in) = -0.762\chi / 2.54$
$W\ (in) = \pm 0.3048\chi / 2.54$

STRETCH Mode (16:9)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
225" (572 cm)	498 cm (196")	280 cm (110")	7.5 m (24' 6")	9.0 m (29' 5")	–140.1 cm (–55 5/32")	46.7 cm (18 25/64")	±74.7 cm (29 27/64")
200" (508 cm)	443 cm (174")	249 cm (98")	6.6 m (21' 9")	8.0 m (26' 2")	–124.5 cm (–49 1/32")	41.5 cm (16 11/32")	±66.4 cm (26 9/64")
150" (381 cm)	332 cm (131")	187 cm (74")	5.0 m (16' 4")	6.0 m (19' 7")	–93.4 cm (–36 49/64")	31.1 cm (12 1/4")	±49.8 cm (19 39/64")
133" (338 cm)	294 cm (116")	166 cm (65")	4.4 m (14' 6")	5.3 m (17' 5")	–82.8 cm (–32 39/64")	27.6 cm (10 7/8")	±44.2 cm (17 25/64")
106" (269 cm)	235 cm (92")	132 cm (52")	3.5 m (11' 7")	4.2 m (13'10")	–66.0 cm (–25 63/64")	22.0 cm (8 21/32")	±35.2 cm (13 55/64")
100" (254 cm)	221 cm (87")	125 cm (49")	3.3 m (10'11")	4.0 m (13' 1")	–62.3 cm (–24 33/64")	20.8 cm (8 11/64")	±33.2 cm (13 5/64")
92" (234 cm)	204 cm (80")	115 cm (45")	3.1 m (10' 0")	3.7 m (12' 0")	–57.3 cm (–22 35/64")	19.1 cm (7 33/64")	±30.6 cm (12 1/32")
84" (213 cm)	186 cm (73")	105 cm (41")	2.8 m (9' 2")	3.3 m (11' 0")	–52.3 cm (–20 19/32")	17.4 cm (6 55/64")	±27.9 cm (10 63/64")
72" (183 cm)	159 cm (63")	90 cm (35")	2.4 m (7'10")	2.9 m (9' 5")	–44.8 cm (–17 21/32")	14.9 cm (5 57/64")	±23.9 cm (9 13/32")
60" (152 cm)	133 cm (52")	75 cm (29")	2.0 m (6' 6")	2.4 m (7'10")	–37.4 cm (–14 45/64")	12.5 cm (4 29/32")	±19.9 cm (7 27/32")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
$L1\ (m) = 0.03321\chi$
$L2\ (m) = 0.03985\chi$
$H1\ (cm) = -0.62263\chi$
$H2\ (cm) = 0.20754\chi$
$W\ (cm) = \pm 0.33207\chi$
[Feet/inches]
$L1\ (ft) = 0.03321\chi / 0.3048$
$L2\ (ft) = 0.03985\chi / 0.3048$
$H1\ (in) = -0.62263\chi / 2.54$
$H2\ (in) = 0.20754\chi / 2.54$
$W\ (in) = \pm 0.33207\chi / 2.54$

Note

- There may be an error of ±3% in the above values.
- Values with a minus (–) sign indicate the distance of the lens center below the bottom of the image.

Adjust the picture size and focus

Refer to "Image Projection" in the projector operation manual for information on adjusting the focus and picture size.

Handling Precautions

- **Do not disassemble this lens.**
  Please refer to your authorized dealer for any maintenance and inspections requiring an open cabinet.
- **Touching any other internal part could cause personal injury or machine malfunction.**
- **Do not touch any glass or protruding part of the lens. This may cause personal injury and reduced performance of the projector.**
- **When maintaining the projector the following points should be noted.**
  - When cleaning the lens be sure to use a commercial air blower or lens cleaning paper (used in cleaning glasses and cameras).
  - The surface of the lens is very delicate. Do not allow hard objects to bump or rub against it.

Caution

- **Be sure not to attach this lens to the projector when storing or carrying the projector. This may cause damage to them.**

Supplied Accessories

- Lens cover (inside rubber ring) – 1
- Lens cap (front) – 1
- Installation manual
- Lens securing screws – 3
- Lens cap (rear) – 1
- Operation manual (this manual)

Specifications

Product type	Wide-zoom lens for projector
Model	AN-PH20EZ
Type of lens	Zoom lens
Picture size (diagonal)	60" to 250"
Focal length	21.2 mm (54/64") – 25.8 mm (1 5/32")
F no.	2.5
Throw ratio	1:1.5 – 1.8
Weight	Approx. 2,200 g (4.85 lbs.)
Dimensions of lens	ø81.2 × 267 mm (10 33/64") (main body only)
Depth of projector with the lens attached	504.2 mm (19 55/64") – 505.4 mm (19 29/32")

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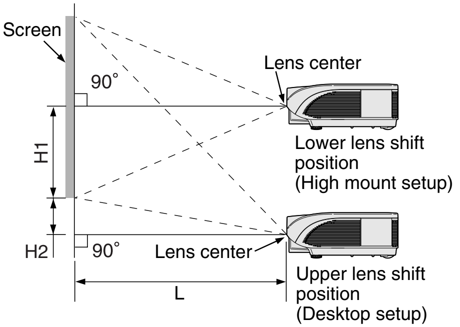
AN-PH30EZ

Standard zoom lens for projector
Standard-objektiv für Projektor
Objectif zoom standard pour projecteur
Objetivo zoom estándar para proyector
XXXXXXXXXXXXXXXXXXXXXXX
プロジェクター用標準ズームレンズ

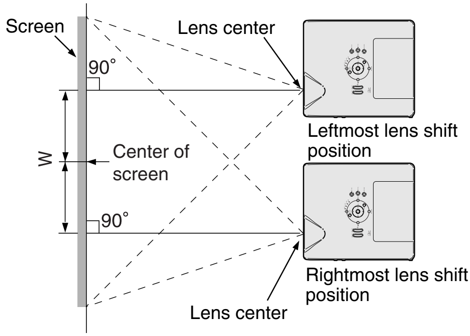
OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D’EMPLOI
MANUAL DE MANEJO
使用说明书
取扱説明書

Picture size and projection distance chart

Side View



Top View



NORMAL Mode (4:3)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	610 cm (240")	457 cm (180")	11.0 m (36' 0")	13.4 m (44' 0")	–228.6 cm (–90")	0 cm (0")	±91.4 cm (36")
250" (635 cm)	508 cm (200")	381 cm (150")	9.1 m (30' 0")	11.2 m (36' 8")	–190.5 cm (–75")	0 cm (0")	±76.2 cm (30")
200" (508 cm)	406 cm (160")	305 cm (120")	7.3 m (24' 0")	8.9 m (29' 4")	–152.4 cm (–60")	0 cm (0")	±61.0 cm (24")
150" (381 cm)	305 cm (120")	229 cm (90")	5.5 m (18' 0")	6.7 m (22' 0")	–114.3 cm (–45")	0 cm (0")	±45.7 cm (18")
100" (254 cm)	203 cm (80")	152 cm (60")	3.7 m (12' 0")	4.5 m (14' 8")	–76.2 cm (–30")	0 cm (0")	±30.5 cm (12")
84" (213 cm)	171 cm (67")	128 cm (50")	3.1 m (10' 1")	3.8 m (12' 4")	–64.0 cm (–25 13/64")	0 cm (0")	±25.6 cm (10 5/64")
80" (203 cm)	163 cm (64")	122 cm (48")	2.9 m (9' 7")	3.6 m (11' 9")	–61.0 cm (–24")	0 cm (0")	±24.4 cm (9 19/32")
72" (183 cm)	146 cm (58")	110 cm (43")	2.6 m (8' 8")	3.2 m (10' 7")	–54.9 cm (–21 19/32")	0 cm (0")	±21.9 cm (8 41/64")
70" (178 cm)	142 cm (56")	107 cm (42")	2.6 m (8' 5")	3.1 m (10' 3")	–53.3 cm (–21")	0 cm (0")	±21.3 cm (8 13/32")
60" (152 cm)	122 cm (48")	91 cm (36")	2.2 m (7' 2")	2.7 m (8'10")	–45.7 cm (–18")	0 cm (0")	±18.3 cm (7 13/64")
40" (102 cm)	81 cm (32")	61 cm (24")	1.5 m (4'10")	1.8 m (5'10")	–30.5 cm (–12")	0 cm (0")	±12.2 cm (4 51/64")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
L1 (m) = 0.03658χ
L2 (m) = 0.0447χ
H1 (cm) = –0.762χ
W (cm) = ±0.3048χ

[Feet/inches]
L1 (ft) = 0.03658χ / 0.3048
L2 (ft) = 0.0447χ / 0.3048
H1 (in) = –0.762χ / 2.54
W (in) = ±0.3048χ / 2.54

STRETCH Mode (16:9)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
225" (572 cm)	498 cm (196")	280 cm (110")	9.0 m (29' 5")	11.0 m (35'11")	–140.1 cm (–55 5/32")	46.7 cm (18 25/64")	±74.7 cm (29 27/64")
200" (508 cm)	443 cm (174")	249 cm (98")	8.0 m (26' 2")	9.7 m (31'11")	–124.5 cm (–49 1/32")	41.5 cm (16 11/32")	±66.4 cm (26 9/64")
150" (381 cm)	332 cm (131")	187 cm (74")	6.0 m (19' 7")	7.3 m (24' 0")	–93.4 cm (–36 49/64")	31.1 cm (12 1/4")	±49.8 cm (19 39/64")
133" (338 cm)	294 cm (116")	166 cm (65")	5.3 m (17' 5")	6.5 m (21' 3")	–82.8 cm (–32 39/64")	27.6 cm (10 7/8")	±44.2 cm (17 25/64")
106" (269 cm)	235 cm (92")	132 cm (52")	4.2 m (13'10")	5.2 m (16'11")	–66.0 cm (–25 63/64")	22.0 cm (8 21/32")	±35.2 cm (13 55/64")
100" (254 cm)	221 cm (87")	125 cm (49")	4.0 m (13' 1")	4.9 m (16' 0")	–62.3 cm (–24 33/64")	20.8 cm (8 11/64")	±33.2 cm (13 5/16")
92" (234 cm)	204 cm (80")	115 cm (45")	3.7 m (12' 0")	4.5 m (14' 8")	–57.3 cm (–22 35/64")	19.1 cm (7 33/64")	±30.6 cm (12 1/32")
84" (213 cm)	186 cm (73")	105 cm (41")	3.3 m (11' 0")	4.1 m (13' 5")	–52.3 cm (–20 19/32")	17.4 cm (6 55/64")	±27.9 cm (10 63/64")
72" (183 cm)	159 cm (63")	90 cm (35")	2.9 m (9' 5")	3.5 m (11' 6")	–44.8 cm (–17 21/32")	14.9 cm (5 57/64")	±23.9 cm (9 13/32")
60" (152 cm)	133 cm (52")	75 cm (29")	2.4 m (7'10")	2.9 m (9' 7")	–37.4 cm (–14 45/64")	12.5 cm (4 29/32")	±19.9 cm (7 27/32")
40" (102 cm)	89 cm (35")	50 cm (20")	1.6 m (5' 3")	1.9 m (6' 5")	–24.9 cm (–9 13/16")	8.3 cm (3 17/64")	±13.3 cm (5 15/64")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
L1 (m) = 0.03985χ
L2 (m) = 0.0487χ
H1 (cm) = –0.62263χ
H2 (cm) = 0.20754χ
W (cm) = ±0.33207χ

[Feet/inches]
L1 (ft) = 0.03985χ / 0.3048
L2 (ft) = 0.0487χ / 0.3048
H1 (in) = –0.62263χ / 2.54
H2 (in) = 0.20754χ / 2.54
W (in) = ±0.33207χ / 2.54

Note

- There may be an error of ±3% in the above values.
- Values with a minus (–) sign indicate the distance of the lens center below the bottom of the image.

Adjust the picture size and focus

Refer to “Image Projection” in the projector operation manual for information on adjusting the focus and picture size.

Handling Precautions

- **Do not disassemble this lens.**
  Please refer to your authorized dealer for any maintenance and inspections requiring an open cabinet.
- **Touching any other internal part could cause personal injury or machine malfunction.**
- **Do not touch any glass or protruding part of the lens. This may cause personal injury and reduced performance of the projector.**
- **When maintaining the projector the following points should be noted.**
  - When cleaning the lens be sure to use a commercial air blower or lens cleaning paper (used in cleaning glasses and cameras).
  - The surface of the lens is very delicate. Do not allow hard objects to bump or rub against it.

Caution

- **Be sure not to attach this lens to the projector when storing or carrying the projector. This may cause damage to them.**

Supplied Accessories

- Lens hood – 1
- Lens securing screws – 3
- Lens cap (rear) – 1
- Operation manual (this manual)
- Lens ring (silver flange) – 1
- Lens cap (front) – 1
- Installation manual

Specifications

Product type	Standard zoom lens for projector
Model	AN-PH30EZ
Type of lens	Zoom lens
Picture size (diagonal)	40" to 300"
Focal length	25.6 to 31.3 mm (1 $^{1}/_{64}$" to 1 $^{15}/_{64}$")
F no.	1.8 to 2.0
Throw ratio	1:1.8 to 2.2
Weight	Approx. 1,100 g (2.42 lbs.)
Dimensions of lens	ø80.4 × 166.2 mm (6 $^{35}/_{64}$") (main body only)
Depth of projector with the lens attached	471 mm (18 $^{35}/_{64}$")

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AN-PH40EZ

English

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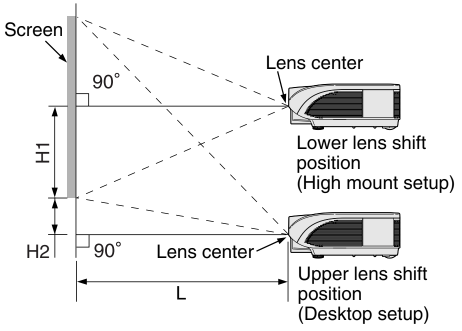
日本語

Tele-zoom lens for projector
Tele-zoomobjektiv für Projektor
Téléobjectif-zoom pour projecteur
Objetivo telefoto-zoom para proyector
投影机的远距变焦镜头
プロジェクター用長焦点ズームレンズ

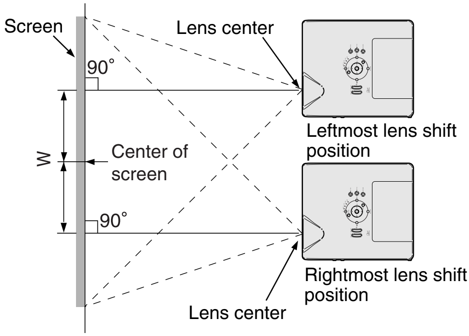
OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D’EMPLOI
MANUAL DE MANEJO
使用说明书
取扱説明書

Picture size and projection distance chart

Side View



Top View



NORMAL Mode (4:3)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
250" (635 cm)	508 cm (200")	381 cm (150")	11.4 m (37' 6")	15.2 m (50' 0")	–190.5 cm (–75")	0 cm (0")	±76.2 cm (30")
200" (508 cm)	406 cm (160")	305 cm (120")	9.1 m (30' 0")	12.2 m (40' 0")	–152.4 cm (–60")	0 cm (0")	±61.0 cm (24")
150" (381 cm)	305 cm (120")	229 cm (90")	6.9 m (22' 6")	9.1 m (30' 0")	–114.3 cm (–45")	0 cm (0")	±45.7 cm (18")
100" (254 cm)	203 cm (80")	152 cm (60"	4.6 m (15' 0")	6.1 m (20' 0")	–76.2 cm (–30")	0 cm (0")	±30.5 cm (12")
84" (213 cm)	171 cm (67")	128 cm (50"	3.8 m (12' 7")	5.1 m (16'10")	–64.0 cm (–25 13/64")	0 cm (0")	±25.6 cm (10 5/64")
80" (203 cm)	163 cm (64")	122 cm (48"	3.7 m (12' 0")	4.9 m (16' 0")	–61.0 cm (–24")	0 cm (0")	±24.4 cm (9 19/32")
72" (183 cm)	146 cm (58")	110 cm (43"	3.3 m (10'10")	4.4 m (14' 5")	–54.9 cm (–21 19/32")	0 cm (0")	±21.9 cm (8 41/64")
70" (178 cm)	142 cm (56")	107 cm (42"	3.2 m (10' 6")	4.3 m (14' 0")	–53.3 cm (–21")	0 cm (0")	±21.3 cm (8 13/32")
60" (152 cm)	122 cm (48")	91 cm (36"	2.7 m (9' 0")	3.7 m (12' 0")	–45.7 cm (–18")	0 cm (0")	±18.3 cm (7 13/64")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
L1 (m) = 0.04572χ
L2 (m) = 0.06096χ
H1 (cm) = –0.762χ
W (cm) = ±0.3048χ

[Feet/inches]
L1 (ft) = 0.04572χ / 0.3048
L2 (ft) = 0.06096χ / 0.3048
H (in) = –0.762χ / 2.54
W (in) = ±0.3048χ / 2.54

STRETCH Mode (16:9)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
225" (572 cm)	498 cm (196")	280 cm (110")	11.2 m (36' 9")	14.9 m (49' 0")	–140.1 cm (–55 5/32")	46.7 cm (18 25/64")	±74.7 cm (29 27/64")
200" (508 cm)	443 cm (174")	249 cm (98")	10.0 m (32' 8")	13.3 m (43' 7")	–124.5 cm (–49 1/32")	41.5 cm (16 11/32")	±66.4 cm (26 9/64")
150" (381 cm)	332 cm (131")	187 cm (74")	7.5 m (24' 6")	10.0 m (32' 8")	–93.4 cm (–36 49/64")	31.1 cm (12 1/4")	±49.8 cm (19 39/64")
133" (338 cm)	294 cm (116")	166 cm (65")	6.6 m (21' 9")	8.8 m (29' 0")	–82.8 cm (–32 39/64")	27.6 cm (10 7/8")	±44.2 cm (17 25/64")
106" (269 cm)	235 cm (92")	132 cm (52")	5.3 m (17' 4")	7.0 m (23' 1")	–66.0 cm (–25 63/64")	22.0 cm (8 21/32")	±35.2 cm (13 55/64")
100" (254 cm)	221 cm (87")	125 cm (49")	5.0 m (16' 4")	6.6 m (21' 9")	–62.3 cm (–24 33/64")	20.8 cm (8 11/64")	±33.2 cm (13 5/64")
92" (234 cm)	204 cm (80")	115 cm (45")	4.6 m (15' 0")	6.1 m (20' 1")	–57.3 cm (–22 35/64")	19.1 cm (7 33/64")	±30.6 cm (12 1/32")
84" (213 cm)	186 cm (73")	105 cm (41")	4.2 m (13' 9")	5.6 m (18' 4")	–52.3 cm (–20 19/32")	17.4 cm (6 55/64")	±27.9 cm (10 63/64")
72" (183 cm)	159 cm (63")	90 cm (35")	3.6 m (11' 9")	4.8 m (15' 8")	–44.8 cm (–17 21/32")	14.9 cm (5 57/64")	±23.9 cm (9 13/32")
60" (152 cm)	133 cm (52")	75 cm (29")	3.0 m (9'10")	4.0 m (13' 1")	–37.4 cm (–14 45/64")	12.5 cm (4 29/32")	±19.9 cm (7 27/32")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
L1 (m) = 0.04981χ
L2 (m) = 0.06641χ
H1 (cm) = –0.62263χ
H2 (cm) = 0.20754χ
W (cm) = ±0.33207χ

[Feet/inches]
L1 (ft) = 0.04981χ / 0.3048
L2 (ft) = 0.06641χ / 0.3048
H1 (in) = –0.62263χ / 2.54
H2 (in) = 0.20754χ / 2.54
W (in) = ±0.33207χ / 2.54

Note

- There may be an error of ±3% in the above values.
- Values with a minus (–) sign indicate the distance of the lens center below the bottom of the image.

Adjust the picture size and focus

Refer to "Image Projection" in the projector operation manual for information on adjusting the focus and picture size.

Handling Precautions

- **Do not disassemble this lens.**
  Please refer to your authorized dealer for any maintenance and inspections requiring an open cabinet.
- **Touching any other internal part could cause personal injury or machine malfunction.**
- **Do not touch any glass or protruding part of the lens. This may cause personal injury and reduced performance of the projector.**
- **When maintaining the projector the following points should be noted.**
  - When cleaning the lens be sure to use a commercial air blower or lens cleaning paper (used in cleaning glasses and cameras).
  - The surface of the lens is very delicate. Do not allow hard objects to bump or rub against it.

Caution

- **Be sure not to attach this lens to the projector when storing or carrying the projector. This may cause damage to them.**

Supplied Accessories

- Lens cover (inside rubber ring) – 1
- Lens cap (front) – 1
- Installation manual
- Lens securing screws – 3
- Lens cap (rear) – 1
- Operation manual (this manual)

Specifications

Product type	Tele-zoom lens for projector
Model	AN-PH40EZ
Type of lens	Zoom lens
Picture size (diagonal)	60" to 250"
Focal length	31.9 mm ($1\,^{17}/_{64}$") – 42.5 mm ($1\,^{11}/_{32}$")
F no.	2.4 – 2.5
Throw ratio	1:2.25 – 3.0
Weight	Approx. 1,800 g (3.97 lbs.)
Dimensions of lens	ø80 × 229.3 mm ($9\,^{1}/_{32}$") (main body only)
Depth of projector with the lens attached	471 mm ($18\,^{35}/_{64}$")

SHARP®

English

Deutsch

Français

Español

中文(简)

日本語

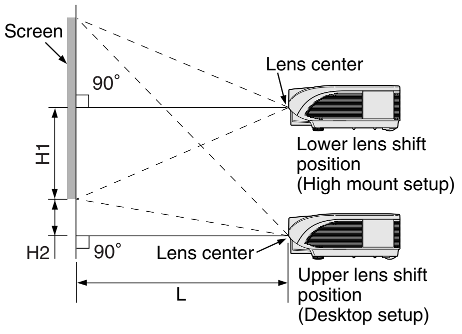
AN-PH50EZ

Tele-zoom lens for projector
Tele-zoomobjektiv für Projektor
Téléobjectif-zoom pour projecteur
Objetivo telefoto-zoom para proyector
投影机的远距变焦镜头
プロジェクター用長焦点ズームレンズ

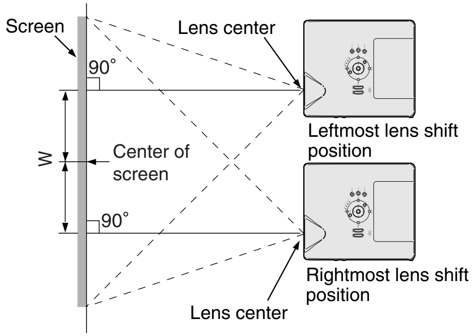
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Picture size and projection distance chart

Side View



Top View



NORMAL Mode (4:3)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
250" (635 cm)	508 cm (200")	381 cm (150")	15.2 m (50' 0")	22.9 m (75' 0")	–190.5 cm (–75")	0 cm (0")	±76.2 cm (30")
200" (508 cm)	406 cm (160")	305 cm (120")	12.2 m (40' 0")	18.3 m (60' 0")	–152.4 cm (–60")	0 cm (0")	±61.0 cm (24")
150" (381 cm)	305 cm (120")	229 cm (90")	9.1 m (30' 0")	13.7 m (45' 0")	–114.3 cm (–45")	0 cm (0")	±45.7 cm (18")
100" (254 cm)	203 cm (80")	152 cm (60")	6.1 m (20' 0")	9.1 m (30' 0")	–76.2 cm (–30")	0 cm (0")	±30.5 cm (12")
84" (213 cm)	171 cm (67")	128 cm (50")	5.1 m (16'10")	7.7 m (25' 2")	–64.0 cm (–25 13/64")	0 cm (0")	±25.6 cm (10 5/64")
80" (203 cm)	163 cm (64")	122 cm (48")	4.9 m (16' 0")	7.3 m (24' 0")	–61.0 cm (–24")	0 cm (0")	±24.4 cm (9 19/32")
72" (183 cm)	146 cm (58")	110 cm (43")	4.4 m (14' 5")	6.6 m (21' 7")	–54.9 cm (–21 19/32")	0 cm (0")	±21.9 cm (8 41/64")
70" (178 cm)	142 cm (56")	107 cm (42")	4.3 m (14' 0")	6.4 m (21' 0")	–53.3 cm (–21")	0 cm (0")	±21.3 cm (8 13/32")
60" (152 cm)	122 cm (48")	91 cm (36")	3.7 m (12' 0")	5.5 m (18' 0")	–45.7 cm (–18")	0 cm (0")	±18.3 cm (7 13/64")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
$L1\ (m) = 0.06096\chi$
$L2\ (m) = 0.09144\chi$
$H1\ (cm) = -0.762\chi$
$W\ (cm) = \pm 0.3048\chi$

[Feet/inches]
$L1\ (ft) = 0.06096\chi / 0.3048$
$L2\ (ft) = 0.09144\chi / 0.3048$
$H\ (in) = -0.762\chi / 2.54$
$W\ (in) = \pm 0.3048\chi / 2.54$

STRETCH Mode (16:9)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
225" (572 cm)	498 cm (196")	280 cm (110")	14.9 m (49' 0")	22.4 m (73' 6")	–140.1 cm (–55 5/32")	46.7 cm (18 25/64")	±74.7 cm (29 27/64")
200" (508 cm)	443 cm (174")	249 cm (98")	13.3 m (43' 7")	19.9 m (65' 4")	–124.5 cm (–49 1/32")	41.5 cm (16 11/32")	±66.4 cm (26 9/64")
150" (381 cm)	332 cm (131")	187 cm (74")	10.0 m (32' 8")	14.9 m (49' 0")	–93.4 cm (–36 49/64")	31.1 cm (12 1/4")	±49.8 cm (19 39/64")
133" (338 cm)	294 cm (116")	166 cm (65")	8.8 m (29' 0")	13.2 m (43' 6")	–82.8 cm (–32 39/64")	27.6 cm (10 7/8")	±44.2 cm (17 25/64")
106" (269 cm)	235 cm (92")	132 cm (52")	7.0 m (23' 1")	10.6 m (34' 8")	–66.0 cm (–25 63/64")	22.0 cm (8 21/32")	±35.2 cm (13 55/64")
100" (254 cm)	221 cm (87")	125 cm (49")	6.6 m (21' 9")	10.0 m (32' 8")	–62.3 cm (–24 33/64")	20.8 cm (8 11/64")	±33.2 cm (13 5/64")
92" (234 cm)	204 cm (80")	115 cm (45")	6.1 m (20' 1")	9.2 m (30' 1")	–57.3 cm (–22 35/64")	19.1 cm (7 33/64")	±30.6 cm (12 1/32")
84" (213 cm)	186 cm (73")	105 cm (41")	5.6 m (18' 4")	8.4 m (27' 5")	–52.3 cm (–20 19/32")	17.4 cm (6 55/64")	±27.9 cm (10 63/64")
72" (183 cm)	159 cm (63")	90 cm (35")	4.8 m (15' 8")	7.2 m (23' 6")	–44.8 cm (–17 21/32")	14.9 cm (5 57/64")	±23.9 cm (9 13/32")
60" (152 cm)	133 cm (52")	75 cm (29")	4.0 m (13' 1")	6.0 m (19' 7")	–37.4 cm (–14 45/64")	12.5 cm (4 29/32")	±19.9 cm (7 27/32")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
$L1\ (m) = 0.06641\chi$
$L2\ (m) = 0.09962\chi$
$H1\ (cm) = -0.62263\chi$
$H2\ (cm) = 0.20754\chi$
$W\ (cm) = \pm 0.33207\chi$

[Feet/inches]
$L1\ (ft) = 0.06641\chi / 0.3048$
$L2\ (ft) = 0.09962\chi / 0.3048$
$H1\ (in) = -0.62263\chi / 2.54$
$H2\ (in) = 0.20754\chi / 2.54$
$W\ (in) = \pm 0.33207\chi / 2.54$

Note

- There may be an error of ±3% in the above values.
- Values with a minus (–) sign indicate the distance of the lens center below the bottom of the image.

Adjust the picture size and focus

Refer to “Image Projection” in the projector operation manual for information on adjusting the focus and picture size.

Handling Precautions

- **Do not disassemble this lens.**
  Please refer to your authorized dealer for any maintenance and inspections requiring an open cabinet.
- **Touching any other internal part could cause personal injury or machine malfunction.**
- **Do not touch any glass or protruding part of the lens. This may cause personal injury and reduced performance of the projector.**
- **When maintaining the projector the following points should be noted.**
  - When cleaning the lens be sure to use a commercial air blower or lens cleaning paper (used in cleaning glasses and cameras).
  - The surface of the lens is very delicate. Do not allow hard objects to bump or rub against it.

Caution

- **Be sure not to attach this lens to the projector when storing or carrying the projector. This may cause damage to them.**

Supplied Accessories

- Lens cover (inside rubber ring) – 1
- Lens cap (front) – 1
- Installation manual
- Lens securing screws – 3
- Lens cap (rear) – 1
- Operation manual (this manual)

Specifications

Product type	Tele-zoom lens for projector
Model	AN-PH50EZ
Type of lens	Zoom lens
Picture size (diagonal)	60" to 250"
Focal length	40.8 mm (1 $^{39}/_{64}$") – 62.8 mm (2 $^{31}/_{64}$")
F no.	2.5
Throw ratio	1:3.0 – 4.5
Weight	Approx. 1,800 g (3.97 lbs.)
Dimensions of lens	ø80 × 224.5 mm (8 $^{27}/_{32}$") (main body only)
Depth of projector with the lens attached	471 mm (18 $^{35}/_{64}$")

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English

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中文(简)

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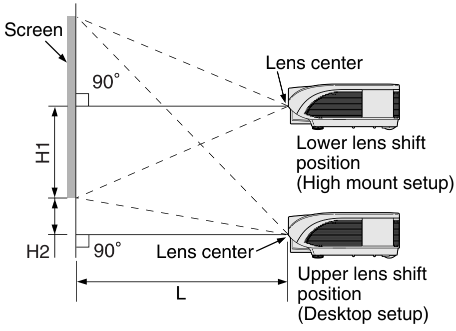
AN-PH60EZ

Tele-zoom lens for projector
Tele-zoomobjektiv für Projektor
Téléobjectif-zoom pour projecteur
Objetivo telefoto-zoom para proyector
投影机的远距变焦镜头
プロジェクター用長焦点ズームレンズ

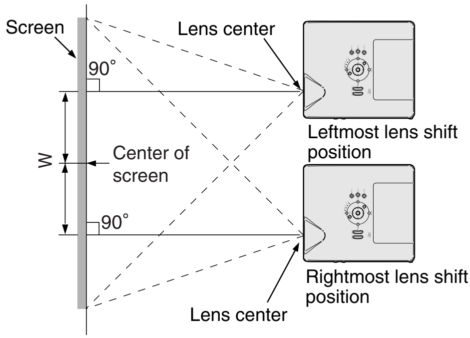
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Picture size and projection distance chart

Side View



Top View



NORMAL Mode (4:3)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
250" (635 cm)	508 cm (200")	381 cm (150")	22.9 m (75' 0")	35.6 m (116' 8")	–190.5 cm (–75")	0 cm (0")	±76.2 cm (30")
200" (508 cm)	406 cm (160")	305 cm (120")	18.3 m (60' 0")	28.4 m (93' 4")	–152.4 cm (–60")	0 cm (0")	±61.0 cm (24")
150" (381 cm)	305 cm (120")	229 cm (90")	13.7 m (45' 0")	21.3 m (70' 0")	–114.3 cm (–45")	0 cm (0")	±45.7 cm (18")
100" (254 cm)	203 cm (80")	152 cm (60")	9.1 m (30' 0")	14.2 m (46' 8")	–76.2 cm (–30")	0 cm (0")	±30.5 cm (12")
84" (213 cm)	171 cm (67")	128 cm (50")	7.7 m (25' 2")	11.9 m (39' 2")	–64.0 cm (–25 13/64")	0 cm (0")	±25.6 cm (10 5/64")
80" (203 cm)	163 cm (64")	122 cm (48")	7.3 m (24' 0")	11.4 m (37' 4")	–61.0 cm (–24")	0 cm (0")	±24.4 cm (9 19/32")
72" (183 cm)	146 cm (58")	110 cm (43")	6.6 m (21' 7")	10.2 m (33' 7")	–54.9 cm (–21 19/32")	0 cm (0")	±21.9 cm (8 41/64")
70" (178 cm)	142 cm (56")	107 cm (42")	6.4 m (21' 0")	10.0 m (32' 8")	–53.3 cm (–21")	0 cm (0")	±21.3 cm (8 13/32")
60" (152 cm)	122 cm (48")	91 cm (36")	5.5 m (18' 0")	8.5 m (28' 0")	–45.7 cm (–18")	0 cm (0")	±18.3 cm (7 13/64")

The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
$L1\ (m) = 0.09144\chi$
$L2\ (m) = 0.14224\chi$
$H1\ (cm) = -0.762\chi$
$W\ (cm) = \pm 0.3048\chi$

[Feet/inches]
$L1\ (ft) = 0.09144\chi / 0.3048$
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STRETCH Mode (16:9)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
225" (572 cm)	498 cm (196")	280 cm (110")	22.4 m (73' 6")	34.9 m (114' 5")	–140.1 cm (–55 5/32")	46.7 cm (18 25/64")	±74.7 cm (29 27/64")
200" (508 cm)	443 cm (174")	249 cm (98")	19.9 m (65' 4")	31.0 m (101' 8")	–124.5 cm (–49 1/32")	41.5 cm (16 11/32")	±66.4 cm (26 9/64")
150" (381 cm)	332 cm (131")	187 cm (74")	14.9 m (49' 0")	23.2 m (76' 3")	–93.4 cm (–36 49/64")	31.1 cm (12 1/4")	±49.8 cm (19 39/64")
133" (338 cm)	294 cm (116")	166 cm (65")	13.2 m (43' 6")	20.6 m (67' 7")	–82.8 cm (–32 39/64")	27.6 cm (10 7/8")	±44.2 cm (17 25/64")
106" (269 cm)	235 cm (92")	132 cm (52")	10.6 m (34' 8")	16.4 m (53'11")	–66.0 cm (–25 63/64")	22.0 cm (8 21/32")	±35.2 cm (13 55/64")
100" (254 cm)	221 cm (87")	125 cm (49")	10.0 m (32' 8")	15.5 m (50'10")	–62.3 cm (–24 33/64")	20.8 cm (8 11/64")	±33.2 cm (13 5/64")
92" (234 cm)	204 cm (80")	115 cm (45")	9.2 m (30' 1")	14.3 m (46' 9")	–57.3 cm (–22 35/64")	19.1 cm (7 33/64")	±30.6 cm (12 1/32")
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The formula for picture size and projection distance

χ: Picture size (diag.) (in)

[m/cm]
$L1\ (m) = 0.09962\chi$
$L2\ (m) = 0.15497\chi$
$H1\ (cm) = -0.62263\chi$
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$W\ (cm) = \pm 0.33207\chi$

[Feet/inches]
$L1\ (ft) = 0.09962\chi / 0.3048$
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Note

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Adjust the picture size and focus

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Handling Precautions

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Supplied Accessories

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- Lens cap (front) – 1
- Installation manual
- Lens securing screws – 3
- Lens cap (rear) – 1
- Operation manual (this manual)

Specifications

Product type	Tele-zoom lens for projector
Model	AN-PH60EZ
Type of lens	Zoom lens
Picture size (diagonal)	60" to 250"
Focal length	62.1 to 97.8 mm (2 $^{29}/_{64}$" to 3 $^{55}/_{64}$")
F no.	2.4 to 2.5
Throw ratio	1:4.5 to 7.0
Weight	Approx. 1,800 g (3.96 lbs.)
Dimensions of lens	ø80 × 235.2 mm (9 $^{17}/_{64}$") (main body only)
Depth of projector with the lens attached	473 mm (18 $^{5}/_{8}$") – 476.6 mm (18 $^{49}/_{64}$")

SHARP

Installation Manual

AN-PH10EX
AN-PH20EZ
AN-PH30EZ
AN-PH40EZ
AN-PH50EZ
AN-PH60EZ

WARNING: This installation manual is for use by service personnel. Please be aware that the manufacturer cannot be responsible for breakage or damage incurred due to improper installation of this lens or use of the projector.

When replacing the lens, please have the lens replaced by the store of purchase or a Sharp Engineering certified service workshop. The inside of the projector contains high-voltage parts that can be extremely dangerous. Never attempt to replace the lens by yourself.

Always make sure to turn off the main power and unplug the power cord before replacing the lens.
Be careful not to allow any screws to drop inside the projector while working. This can cause a fire, electrical shock or malfunction.

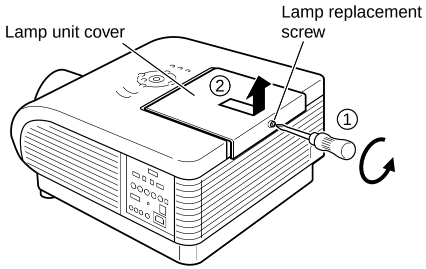
Do not attempt to replace the lens while the projector is suspended from the ceiling. The lens may fall out of the projector resulting in injury.

Before replacing the lens, return the lens shift to the position shown below. (The lens shift is adjusted to the position shown below when shipped from the factory.)
- V (vertical) shift: Uppermost position
- H (horizontal) shift: Middle position

When replacing the lens, use a commercially available screwdriver that satisfies all of the conditions indicated below.
- Type 2 Philips head screwdriver
- Length of protruding section: min. 180 mm (10")
- Magnetized

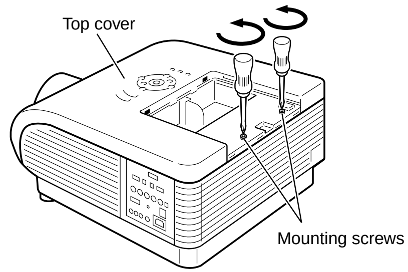
1

Loosen the lamp replacement screw (①) that fastens the lamp unit cover, and remove the lamp unit cover by sliding in the direction shown by the arrow (②).



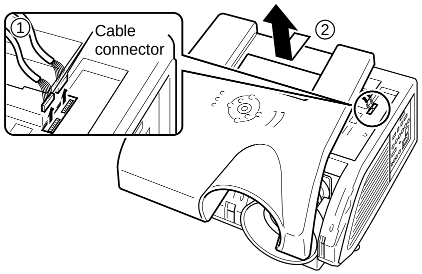
2

Remove the mounting screws of the top cover.



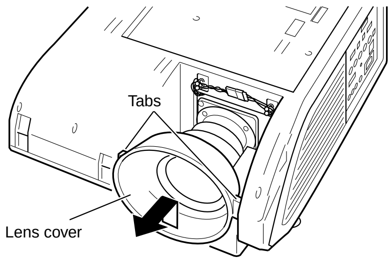
3

Unplug the cable connector (①) and remove the top cover (②).



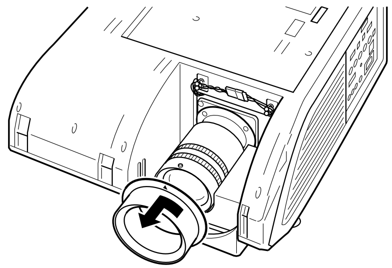
4

Release the tabs while pulling up on the lens cover, and then pull it out towards you.



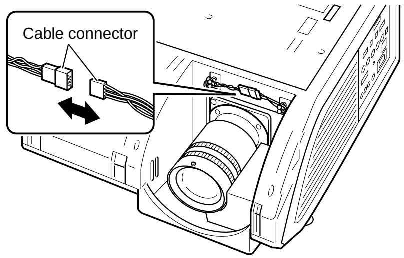
5

(When the lens being removed is the AN-PH30EZ (XG-PH50X standard lens))
Remove the lens ring by turning in the direction shown by the arrow.



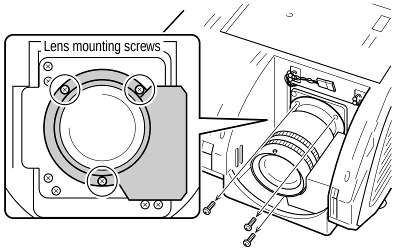
6

Unplug the cable connector.



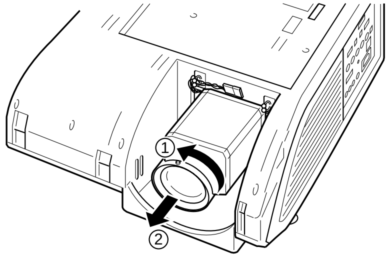
7

Remove the lens mounting screws.



8

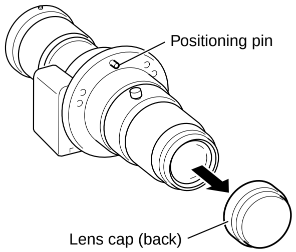
Pull out the lens towards you and then take out the lens (②) by rotating it 90 degrees (①) in the direction shown by the arrow.



9

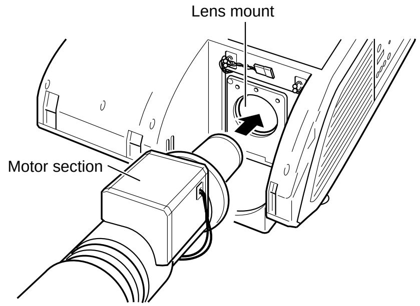
Remove the lens cap (on the back) from the replacement lens.

- This explanation uses the example of the AN-PH10EX.



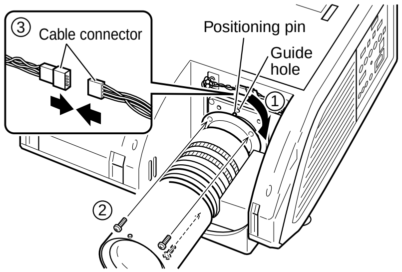
10

Insert the replacement lens into the lens mount with the motor section facing up.



11

Rotate the replacement lens 90 degrees in the direction shown by the arrow (①), align the positioning pin with the guide hole (②), tighten the lens mounting screws and then connect the cable connector (③).

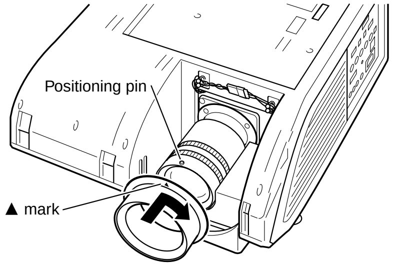


12

(When the lens being attached is the AN-PH30EZ (XG-PH50X standard lens))

Attach the lens ring.

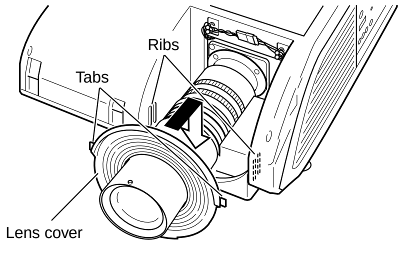
- Align the ▲ mark on the lens ring with the positioning pin on the lens (silver pin), insert the lens ring all the way to the back and then rotate in the direction of the arrow.



13

Attach the lens cover.

- Insert the lens cover while spreading apart the ring section (made of rubber), and then attach the tabs to the ribs.



14

Connect the cable connector by following steps 1 through 3, and then attach the top cover and lamp unit cover.

- The power of the projector will not come on unless the lamp unit cover is securely attached.

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